

Title (en)  
METHOD AND INSTALLATION FOR THE PRODUCTION OF HYDROGEN FROM A FEED CONTAINING HYDROGEN AND HYDROCARBONS

Title (de)  
VERFAHREN UND ANLAGE ZUR GEWINNUNG VON WASSERSTOFF AUS EINEM WASSERSTOFF UND KOHLENWASSERSTOFFE  
ENTHALTENDEN EINSATZGEMISCH

Title (fr)  
PROCEDE ET INSTALLATION DE PRODUCTION D'HYDROGENE A PARTIR UN MELANGE DE CHARGE CONTENANT UN HYDROGENE ET  
DES HYDROCARBURES

Publication  
**EP 3313779 B1 20190424 (DE)**

Application  
**EP 16734313 A 20160629**

Priority  
• EP 15174308 A 20150629  
• EP 2016065197 W 20160629

Abstract (en)  
[origin: WO2017001514A1] The invention relates to a method (100, 200) for obtaining hydrogen from a gaseous feed mixture which is enriched with hydrogen, methane, and hydrocarbons with two carbon atoms. The fluid of the feed mixture is cooled from a first temperature level to a second temperature level at a first pressure level such that one or more condensates are separated from the fluid of the feed mixture while leaving a residual gas. The fluid of the residual gas is further cooled to a third temperature level and subjected to a countercurrent absorption at the first pressure level, thereby obtaining a hydrogen- and methane-enriched head gas and a bottom liquid. The fluid of the head gas is heated and subjected to a pressure swing adsorption (9) at the first pressure level, thereby forming a hydrogen-enriched product flow which has a low methane content or which is methane-free, and the fluid of the condensate(s) and/or of the bottom liquid is expanded from the first pressure level to a second pressure level and fed to a low-pressure demethanizer at the second pressure level. According to the invention, the countercurrent absorption is carried out using fluid which is removed from the low-pressure demethanizer at the second pressure level, compressed to the first pressure level in the gaseous state, and cooled to the third temperature level. The invention likewise relates to a corresponding system.

IPC 8 full level  
**C01B 3/50** (2006.01); **F25J 3/02** (2006.01)

CPC (source: EA EP US)  
**B01D 53/002** (2013.01 - EA US); **B01D 53/047** (2013.01 - EA US); **B01D 53/1431** (2013.01 - EA US); **B01D 53/18** (2013.01 - EA US); **C01B 3/506** (2013.01 - EA EP US); **C01B 3/52** (2013.01 - EA US); **C01B 3/56** (2013.01 - EA US); **F25J 3/0219** (2013.01 - EA EP US); **F25J 3/0238** (2013.01 - EA EP US); **F25J 3/0252** (2013.01 - EA EP US); **C01B 2203/0415** (2013.01 - EA US); **C01B 2203/042** (2013.01 - EA US); **C01B 2203/043** (2013.01 - EA EP US); **C01B 2203/048** (2013.01 - EA EP US); **C01B 2203/147** (2013.01 - EA US); **F25J 2200/70** (2013.01 - EA EP US); **F25J 2205/02** (2013.01 - EA EP US); **F25J 2205/04** (2013.01 - EA EP US); **F25J 2205/30** (2013.01 - EA EP US); **F25J 2205/40** (2013.01 - EA EP US); **F25J 2205/60** (2013.01 - EA EP US); **F25J 2210/12** (2013.01 - EA EP US); **F25J 2215/62** (2013.01 - EA EP US); **F25J 2230/08** (2013.01 - EA EP US); **F25J 2230/60** (2013.01 - EA EP US); **F25J 2245/02** (2013.01 - EA EP US); **F25J 2270/02** (2013.01 - EA EP US)

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2017001514 A1 20170105**; AU 2016286853 A1 20180125; AU 2016286853 B2 20200521; BR 112017028626 A2 20180904; BR 112017028626 B1 20230214; CA 2990309 A1 20170105; CA 2990309 C 20231003; EA 032725 B1 20190731; EA 201890057 A1 20180731; EP 3313779 A1 20180502; EP 3313779 B1 20190424; MY 182862 A 20210205; US 10464810 B2 20191105; US 2018186632 A1 20180705; ZA 201800599 B 20191030

DOCDB simple family (application)  
**EP 2016065197 W 20160629**; AU 2016286853 A 20160629; BR 112017028626 A 20160629; CA 2990309 A 20160629; EA 201890057 A 20160629; EP 16734313 A 20160629; MY PI2017001952 A 20160629; US 201615741187 A 20160629; ZA 201800599 A 20180129